

GenCore version 4.5  
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OM protein - protein search, using sw model

Run on: October 28, 2000, 11:02:22 ; Search time 43.12 Seconds  
(without alignments)  
98.541 Million cell updates/sec

Title: US-09-157-984-1

Sequence: 1 KANDEFLHREGYSVCSDESHW.....RFRINACVYLSRSMRH 133

Scoring table: BLOSUM62  
Gapop 10.0 , Capext 0.5

Numbered: 87993 seqs, 31947931 residues

Total number of hits satisfying chosen parameters: 87993

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : SwissProt\_39:\*

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	681	93.2	233	1 NT7_BRARE
2	419.5	57.4	194	1 NGF_XIPMA
3	386.5	52.9	243	1 NGF_CHICK
4	382.5	52.3	231	1 NGF_XENLA
5	379.5	51.9	241	1 NGF_MOUSE
6	373.5	51.1	241	1 NGF_RAT
7	368.5	50.4	229	1 NGF_PIG
8	368.5	50.4	241	1 NGF_HUMAN
9	368.5	50.4	241	1 NGF_PRANA
10	362.5	49.6	231	1 NGF_BOVIN
11	362.5	49.6	241	1 NGF_CAVPO
12	355.5	48.6	117	1 NGF_DABRR
13	341.5	46.7	243	1 NGF_BDNMU
14	321	43.9	257	1 NT3_CHICK
15	318	43.5	257	1 NT3_HUMAN
16	318	43.5	258	1 NT3_MOUSE
17	318	43.5	258	1 NT3_RAT
18	316	43.2	260	1 NT3_XENLA
19	314	43.0	257	1 NT3_FELCA
20	310	42.4	116	1 NGF_NAJNA
21	308	42.1	116	1 NGF_NAJAT
22	260	35.6	255	1 BDNF_CAVPO
23	259	35.4	247	1 BDNF_HUMAN
24	259	35.4	247	1 BDNF_PROLO
25	259	35.4	247	1 BDNF_URSAR
26	259	35.4	247	1 BDNF_URSML
27	259	35.4	249	1 BDNF_MOUSE
28	259	35.4	249	1 BDNF_RAT
29	259	35.4	252	1 BDNF_PTC
30	259	35.4	270	1 BDNF_CTPCA
31	258	35.3	114	1 BDNF_MACMU
32	258	35.3	248	1 BDNF_BOVIN
33	255	34.9	247	1 BDNF_FELCA

34	250	34.2	246	1 BDNF_CHICK	P25429 gallus galli
35	245	33.5	114	1 BDNF_XENLA	P25432 xenopus lae
36	244	33.4	269	1 BDNF_XIPMA	P002193 xiphophorus
37	236	32.3	209	1 NT4_RAT	P34131 rattus norv
38	231	31.6	210	1 NT4_HUMAN	P34130 homo sapien
39	217	29.7	236	1 NT4_XENLA	P24727 xenopus lae
40	154.5	21.1	257	1 NT6A_HUMAN	P34132 homo sapien
41	152.5	20.9	186	1 NT6B_HUMAN	P34133 homo sapien
42	149.5	20.5	257	1 NGF_HUMAN	P34133 homo sapien
43	120.5	16.5	42	1 NGF_VIPLE	P25428 vipera lebe
44	110.5	15.1	43	1 NT3_RAUCCL	P25434 raja clavav
45	91	12.4	43	1 BDNF_RAUCCL	P25430 raja clavav

## ALIGNMENTS

RESULT	ID	NT7_BRARE	STANDARD	PRT	233 AA
1	NT7_BRARE	073797			
AC	30-MAY-2000 (Rel. 39, Created)				
DT	30-MAY-2000 (Rel. 39, Last sequence update)				
DT	30-MAY-2000 (Rel. 39, Last annotation update)				
DE	NEUROTROPHIN-7 PRECURSOR (NT-7) (ZNT-7).				
GN	NT7.				
OS	Brachydanio rerio (zebrafish) (zebra danio).				
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;				
OC	Cypriniformes; Cyprinidae; Rasbora; Danio.				
RN	[1]				
RP	SEQUENCE FROM K.A.				
RX	MEDLINE: 98198571.				
RA	Nilson A.S., Fainzilber M., Falck P., Ibanez C.F.;				
RT	Neurotrophin-7: a novel member of the neurotrophin family from the				
RL	zebrafish.				
FEBS	Lett. 424:285-290(1998).				
CC	-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.				
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CC	or send an email to <a href="mailto:license@sib-sib.ch">license@sib-sib.ch</a> ).				
CC	-----				
DR	EMBL: AF055906; AAC41272.1; -				
DR	ZEIN; ZDB-GENE-990415-176; NT7.				
DR	INTERPRO: IPR002072; -				
DR	PFAM: PF00243; NGF.1.				
DR	PRINTS; PR00266; NGF.				
DR	PROSITE; PS00248; NGF-1; 1.				
KW	Growth factor; Signal.				
FT	SIGNAL	1	16	POTENTIAL.	
FT	PROPEP	17	97	BY SIMILARITY.	
FT	CHAIN	98	233	NEUROTROPHIN-7.	
FT	DISULFID	116	190	BY SIMILARITY.	
FT	DISULFID	153	218	BY SIMILARITY.	
FT	DISULFID	178	220	BY SIMILARITY.	
SQ	SEQUENCE	233 AA;	26423 MM;	ADDFCE96DF52C454 CRC64;	

Query Match 93.2%; Score 681; DB 1; Length 233;  
Best Local Similarity 91.7%; Pred. No. 3.6e-66;  
Matches 122; Conservative 4; Mismatches 7; Indels 0; Gaps 0;

Qy	1	KANDEFLHREGYSVCSDESHWGNLTQATDLRGNEVYLPVRRINNVKKQMFETTRGV	60
Db	97	KANDEFLHREGYSVCSDESHWGNLTQATDLRGNEVYLPVRRINNVKKQMFETTRGV	156
Qy	61	KPIAPPGCGVSVKAGTSSCRGIDENHNNSYCTNVTFRALTSKKNQAMFETINA	120

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Db 157 KPIGAPKPGGASGVKAGTSSCRGIDSKHMSYCTNHTTYRALTSTYKNOIAMPRIRINA 216
QY 121 ACVCVLSRNSMRH 133
Db 217 ACVCVLSRNSMRH 229

RESULT 2
NGF_XIPMA STANDARD; PRT; 194 AA.
ID NGF_XIPMA
AC P34129;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DE 01-FEB-1994 (Rel. 28, Last annotation update)
DE NERVE GROWTH FACTOR PRECURSOR (NGF).
OS Xiphophorus maculatus (Southern platyfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorphia; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Cyprinodontiformes; Poeciliidae; Xiphophorus.
[1]
SEQUENCE FROM N.A.
MEDLINE; 9233301.
RA Goltz R., Raulf F., Scharf M.;
RT "Brain-derived neurotrophic factor is more highly conserved in
RT structure and function than nerve growth factor during vertebrate
RT evolution."
RT J. Neurochem. 59:432-442(1992).
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC
NEURONS IN THE BRAIN.
-1- SUBUNIT: HOMODIMER.
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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DR EMBL; X59941; CAA42566.1; -
DR HSSP; P01139; 1HTG.
DR INTERPRO; IPR002072; -.
DR PRINTS; PF00243; NGF.1.
DR PROSITE; PS00248; NGF_1; FALSE_NEG.
Growth factor; Signal.
FT SIGNAL 1 ?
FT PROPEP 79 ?
FT CHAIN 80 194 NERVE GROWTH FACTOR.
FT DISULFD 90 155 BY SIMILARITY.
FT DISULFD 133 183 BY SIMILARITY.
FT DISULFD 143 185 BY SIMILARITY.
SEQUENCE 194 AA; 21596 MW; 0369E0F4A51147AE CRC64;

Query Match 57.4%; Score 419.5; DB 1; Length 194;
Best Local Similarity 63.0%; Pred. No. 4e-38;
Matches 80; Conservative 10; Mismatches 22; Indels 15; Gaps 2;
QY 7 HRGEYSVDSSEHWYGNLQATDILRNEVTVLPHVXINNVKQMTYETTCGRVSKPIGAP 66
Db 83 HGVGVSVCSVSWGNKRAKDIDSKREVTVLPTVINNNVKKQYFFETTC-SPP----- 137
QY 67 KPGQGVSVKAGTSSCRGIDNEHMSYCTNHTTYRALTSTYKNOIAMPRIRINA 126
Db 138 -----SGSGSCLGIDARHWNHCHNSHFTVALTSSSEQVAKRLIRINACVYL 187
QY 127 SRNSMRH 133

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Db 188 SRNSMRH 194
QY 188 SRNSMRH 194

RESULT 3
NGF_CHICK STANDARD; PRT; 243 AA.
ID NGF_CHICK
AC P05200;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DE 01-NOV-1997 (Rel. 35, Last annotation update)
DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF).
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
[1]
SEQUENCE FROM N.A.
MEDLINE; 86300646.
RA Ebendahl T., Lachmann D., Persson H.;
RT "Structure and expression of the chicken beta nerve growth factor
RT gene."
RT EMBO J. 5:1483-1487(1986).
[2]
SEQUENCE OF 118-243 FROM N.A.
MEDLINE; 86248129.
RA Wilson D., Perret C., Frechin N., Keller A., Behar G., Brachet P.,
RA Aufferay C.;
RT "Molecular cloning of the avian beta nerve growth factor gene:
RT transcription in brain."
RT FEBS Lett. 203:82-86(1986).
[3]
SEQUENCE OF 121-243 FROM N.A.
MEDLINE; 86300647.
RA Meier R., Becker Andre M., Goltz R., Heumann R., Shaw A., Thoenen H.;
RT "Molecular cloning of bovine and chick nerve growth factor (NGF):
RT delineation of conserved and unconserved domains and their
RT relationship to the biological activity and antigenicity of NGF."
RT EMBO J. 5:1489-1493(1986).
[4]
SEQUENCE OF 181-222 FROM N.A.
MEDLINE; 91232573.
RA Hallboeck F., Ibanez C.F., Persson H.;
RT "Evolutionary studies of the nerve growth factor family reveal a
RT novel member abundantly expressed in Xenopus ovary."
RT Neuron 6:845-858(1991).
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
EMBRYONIC SENSORY NEURONS.
-1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
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DR EMBL; X04003; CAA27633.1; ALT_INIT.
DR EMBL; D00010; BAA00008.1; -
DR EMBL; X04067; CAA27703.1; -
DR EMBL; M26810; AAA48984.1; -
DR PIR; A24857; A24857.
DR PIR; A26311; A26311.
DR HSSP; P01139; 1HTG.
DR INTERPRO; IPR002072; -.
DR PRINTS; PF00243; NGF.1.
DR PROSITE; PS00248; NGF_1; 1.

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KW Growth factor: Signal.  
 FT SIGNAL 1 22 POTENTIAL.  
 FT PROPEP 23 125  
 FT CHAIN 126 243 BETA-NERVE GROWTH FACTOR.  
 FT DISULFID 139 204 BY SIMILARITY.  
 FT DISULFID 182 232 BY SIMILARITY.  
 FT DISULFID 192 234 BY SIMILARITY.  
 SQ SEQUENCE 243 AA; 27138 MW; 74C306CB2079DA07 CRC64;

Query Match 52.9%; Score 386.5; DB 1; Length 243;  
 Best Local Similarity 57.3%; Pred. No. 1.9e-34;  
 Matches 73; Conservative 12; Mismatches 29; Indels 15; Gaps 1;

QY 2 ANDPFRGEYSVCESEHWGNLTQATDLRGNEVYLPVHRINNVYKKQMFYETTCRVSK 61  
 DB 127 AHPVLRHGFSCDSVSMWVGDKTATDICKKEVTVLGEVINNNVFKQYFETCKCDPR 186  
 DB 62 PIGAPRPGGVSGVKGAGTSCRCGIDNEHNSYCTNVHTFVRLTSKQJAMRFIRINA 121  
 DB 187 PV-----SSGCRGIDAKHNSYCTTHTFVKALTMGKQAMRFIRIDTA 231

QY 122 CVCVLSRNSWR 132  
 DB 232 CVCVLSRNSGR 242

RESULT 4  
 NGF\_XENLA STANDARD; PRT; 231 AA.  
 ID NGF\_XENLA  
 AC P21617;  
 DT 01-MAY-1991 (Rel. 18, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 15-DEC-1998 (Rel. 37, Last annotation update)  
 DE NERVE GROWTH FACTOR PRECURSOR (NGF).  
 OS Xenopus laevis (African clawed frog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;  
 OC Xenopodinae; Xenopus.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 91362944.  
 RA Carriero F., Campioni M., Cardinale B., Pierandrei-Amaldi P.;  
 RT "Structure and expression of the nerve growth factor gene in Xenopus  
 oocytes and embryos.";  
 RL Mol. Reprod. Dev. 29:313-322(1991).  
 RN [2]  
 RP SEQUENCE OF 170-211 FROM N.A.  
 RX TISSUE-LIVER;  
 RA MEDLINE; 91222573.  
 RA Hallboeek F., Ibanez C.F., Persson H.;  
 RT "Evolutionary studies of the nerve growth factor family reveal a  
 novel member abundantly expressed in Xenopus ovary.";  
 RL Neuron 6:845-858(1991).  
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
 STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
 EMBRYONIC SENSORY NEURONS.  
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
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CC EMBL; X55716; CA39249.1; ALT\_INT.  
 DR PIR; S14481; S14481.  
 DR HSSP; P01139; ISGF.  
 DR INTERPRO; IPR002072; -.

DR PFAM; PF00243; NGF; 1.  
 DR PRINTS; PR00266; NGF.  
 DR PROSITE; PS00248; NGF\_1; 1.  
 KW Growth factor: Signal.  
 FT SIGNAL 1 18 POTENTIAL.  
 FT PROPEP 15 114 NERVE GROWTH FACTOR.  
 FT CHAIN 115 231 BY SIMILARITY.  
 FT DISULFID 128 193 BY SIMILARITY.  
 FT DISULFID 171 221 BY SIMILARITY.  
 FT DISULFID 181 223 BY SIMILARITY.  
 FT CARBOHYD 63 63 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 107 107 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 158 158 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 SQ SEQUENCE 231 AA; 26416 MW; 72A04E7D00B858C5 CRC64;

Query Match 52.3%; Score 382.5; DB 1; Length 231;  
 Best Local Similarity 59.3%; Pred. No. 4.7e-34;  
 Matches 73; Conservative 10; Mismatches 25; Indels 15; Gaps 1;

QY 6 LRGEYSVCESEHWGNLTQATDLRGNEVYLPVHRINNVYKKQMFYETTCRVSKPIGA 65  
 DB 120 LRGEYSVCESEHWGNLTQATDLRGNEVYLPVHRINNVYKKQMFYETTCRVSKPIGA 177  
 QY 66 PRPGGVSGVKGAGTSCRCGIDNEHNSYCTNVHTFVRLTSKQJAMRFIRINA 125  
 DB 178 -----SSGCRGIDAKHNSYCTTHTFVKALTMGKQAMRFIRIDTA 224

QY 126 LSR 128  
 DB 225 LSR 227

RESULT 5  
 NGF\_MOUSE STANDARD; PRT; 241 AA.  
 ID NGF\_MOUSE  
 AC P01139; Q63864;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 01-JAN-1990 (Rel. 13, Last sequence update)  
 DT 15-JUL-1998 (Rel. 36, Last annotation update)  
 DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF).  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 83167518.  
 RA Scott J., Selby M.J., Urdea M.S., Quiroga M., Bell G.I., Rutter W.J.;  
 RT "Isolation and nucleotide sequence of a cDNA encoding the precursor  
 of mouse nerve growth factor.";  
 RL Nature 302:538-540(1983).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 83244969.  
 RA Ullrich A., Gray A., Berman C., Dull T.J.;  
 RT "Human beta-nerve growth factor gene sequence highly homologous to  
 that of mouse.";  
 RL Nature 303:821-825(1983).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE; 84206565.  
 RA Ullrich A., Gray A., Berman C., Coussens L., Dull T.J.;  
 RT "Sequence homology of human and mouse beta-NGF subunit genes.";  
 RL Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN-C57BL/6; TISSUE-SUBMAXILLARY GLAND;  
 RX MEDLINE; 88038855.  
 RA Selby M.J., Edwards R., Sharp F., Rutter W.J.;  
 RT "Mouse nerve growth factor gene: structure and expression.";  
 RL Mol. Cell. Biol. 7:3057-3064(1987).  
 RN [5]

RP SEQUENCE FROM N.A.  
 RX MEDLINE: 93264918  
 RA Yamamoto T., Yamakuni T., Okabe N., Amano T.;  
 RT "Production and secretion of nerve growth factor by clonal striated  
 muscle cell line, G8-1.";  
 RL Neurochem. Int. 21:251-258(1992).  
 RN [6]  
 RP SEQUENCE OF 122-239.  
 RX MEDLINE: 73075048  
 RA Angeletti R.H., Hermodson M.A., Bradshaw R.A.;  
 RT "Amino acid sequences of mouse 2.5S nerve growth factor. II.  
 RT Isolation and characterization of the thermolytic and peptic peptides  
 RT and the complete covalent structure.";  
 RL Biochemistry 12:100-115(1973).  
 RN [7]  
 RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).  
 RX MEDLINE: 92065986.  
 RA McDonald N.O., Lapatto R., Murray-Rust J., Gunning J., Wlodawer A.,  
 RA Blundell T.L.;  
 RT "New protein fold revealed by a 2.3-A resolution crystal structure of  
 RT nerve growth factor";  
 RL Nature 354:411-414(1991).  
 RN [8]  
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).  
 RX MEDLINE: 94260545.  
 RA Holland D.R., Cousens L.S., Meng W., Matthews B.W.;  
 RT "Nerve growth factor in different crystal forms displays structural  
 RT flexibility and reveals zinc binding sites.";  
 RL J. Mol. Biol. 239:385-400(1994).  
 RN [9]  
 RP X-RAY CRYSTALLOGRAPHY (3.15 ANGSTROMS) OF 7S COMPLEX.  
 RX STRAIN-SWISS WEBSTER; TISSUE-SUBMAXILLARY GLAND;  
 RX MEDLINE: 98035451.  
 RA Bax B., Blundell T.L., Murray-Rust J., McDonald N.O.;  
 RT "Structure of mouse 7S NGF: a complex of nerve growth factor with  
 RT four binding proteins.";  
 RL Structure 5:1275-1285(1997).  
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
 CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
 CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
 CC EMBRYONIC SENSORY NEURONS.  
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
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 DR EMBL: M35075; AAA39818.1; ALT\_INIT.  
 DR EMBL: V00836; CAA24221.1; ALT\_INIT.  
 DR EMBL: K01759; AAA39820.1; ALT\_INIT.  
 DR EMBL: M14805; AAA39821.1; ALT\_INIT.  
 DR EMBL: M17298; AAA37687.1; ALT\_INIT.  
 DR EMBL: M17296; AAA37687.1; JOINED.  
 DR EMBL: M17297; AAA37687.1; JOINED.  
 DR EMBL: S62089; CAB32081.1; JOINED.  
 DR PTR: A01400; NCMSMG.  
 DR PDB: 1BET; 31-MAY-94.  
 DR PDB: 1BTG; 08-MAR-96.  
 DR PDB: 1SGF; 27-MAY-98.  
 DR MGD: MGI:97321; NGFB.  
 DR INTERPRO: IPR002072;  
 DR PRAM: PR00243; NGF; 1.  
 DR PRINTS: PR00268; NGF.  
 DR PROSITE: PS00248; NGF\_1; 1.  
 KW Growth factor; signal; 3D-structure.  
 FT SIGNAL 1 18 POTENTIAL.  
 FT PROPEP 19 121  
 FT CHAIN 122 241 BETA-NEURVE GROWTH FACTOR.

FT DISULFID 136 201  
 FT DISULFID 179 229  
 FT DISULFID 189 231  
 FT CARBOHYD 69 69  
 FT CARBOHYD 114 114  
 FT CONFLICT 233 241  
 SQ SEQUENCE 241 AA: 27076 MW: 164465E1DC550081 CRC64;  
 Query Match 51.9%; Score 379.5; DB 1; Length 241;  
 Best Local Similarity 56.3%; Pred. No. 1e-33;  
 Matches 71; Conservative 14; Mismatches 26; Indels 15; Gaps 1;  
 QY 7 HREGYVCDSEBHWGNLTQATDLRGNEYVLPYRINNVKQMFETCRVSKPIGAP 66  
 DB 129 HMGESVCDSSVWVGDMTATDINGKETVLAENVNINSVRFQFFETKCRASNPV--- 185  
 QY 67 KPGQVSGVKAQTSRCRGIDNEHWNSTCTNHTFEVRLTSYNQJAMRIRINACVYL 126  
 DB 186 -----ESCRCRGIDSKHNSCTTHTFVKALITDEKQAMRIRIDTACVYL 233  
 QY 127 SRNSWR 132  
 DB 234 SRKATR 239  
 RESULT 6  
 NGF\_RAT  
 ID NGF\_RAT STANDARD; PRT: 241 AA.  
 AC P25427;  
 DT 01-MAY-1992 (Rel. 22, Created)  
 DT 01-FEB-1996 (Rel. 33, Last sequence update)  
 DT 01-NOV-1997 (Rel. 35, Last annotation update)  
 DE BETA-NEURVE GROWTH FACTOR PRECURSOR (BETA-NGF).  
 GN NGFB.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniota; Vertebrata; Euteleostomi;  
 OC Mammalia; Euteleia; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 89037223.  
 RA Whittemore S.R., Friedman P.L., Iarhammar D.G., Persson H.,  
 RA Gonzalez-Carvajal M., Holets V.R.;  
 RT "Rat beta-nerve growth factor sequence and site of synthesis in the  
 RT adult hippocampus.";  
 RL J. Neurosci. Res. 20:403-410(1988).  
 RN [2]  
 RP SEQUENCE OF 178-219 FROM N.A.  
 RC STRAIN-SPRAGUE-DAWLEY; TISSUE-LIVER.  
 RX MEDLINE: 91222573.  
 RA Halboeck F., Ibanez C.F., Persson H.;  
 RT "Evolutionary studies of the nerve growth factor family reveal a  
 RT novel member abundantly expressed in Xenopus ovary.";  
 RL Neuron 6:845-853(1991).  
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
 CC MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
 CC STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
 CC EMBRYONIC SENSORY NEURONS.  
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
 CC  
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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC  
 DR EMBL: M36589; AAA1697.1; ALT\_INIT.  
 DR HSSP: P01139; 1BTG.  
 DR INTERPRO: IPR002072;  
 DR PFAM: PF00243; NGF; 1.

PRINTS: PRO0268; NGF.  
 DR PROSITE; PS00248; NGF\_1; 1.  
 KW Growth factor; Signal.  
 FT SIGNAL 1 18 POTENTIAL.  
 FT PROPEP 19 121 BETA-NERVE GROWTH FACTOR.  
 FT CHAIN 122 241 BY SIMILARITY.  
 FT DISULFID 136 201 BY SIMILARITY.  
 FT DISULFID 179 229 BY SIMILARITY.  
 FT DISULFID 189 231 BY SIMILARITY.  
 FT CARBOHYD 114 69 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 166 166 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 SO SEQUENCE 241 AA: 27009 MW: 665F42371563213D CRC64;

Query Match 51.1%; Score 373.5; DB 1; Length 241;  
 Best Local Similarity 56.3%; Pred. No. 4.6e-33;  
 Matches 71; Conservative 12; Mismatches 28; Indels 15; Gaps 1;

7 HGEYSVCSDEEHWGNTQATDLRGNEVTVLPHVRINNVYKQMFETTCRVSKPIGAP 66  
 129 HMEFVSVDVSVWAGDKTATIDIKGEVTVLGEVNINNSVFRQYFETTCRAPNPV--- 185  
 67 KPGQVSGVAGTSSCGRIDNEHNSYCTNVHFFVRLATSYKNOIAMRTIRINACVCL 126  
 186 -----ESGCRGIDSKHMNSYCTTHFFVRLATIDDKQAMRFRIDTACVCL 233  
 127 SRNSWR 132  
 234 SRKAAR 239

RESULT 7  
 ID NGF\_PIG STANDARD; PRT; 229 AA.

AC 029074;  
 DT 01-NOV-1997 (Rel. 35, Created)  
 DT 01-NOV-1997 (Rel. 35, Last sequence update)  
 DT 01-NOV-1997 (Rel. 35, Last annotation update)  
 DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF) (FRAGMENT).  
 GN NGFB.  
 OS Sus scrofa (Pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.  
 RN (1)  
 RP SEQUENCE FROM N.A.  
 RA STRAIN-LARGE WHITE; TISSUE-BLOOD;  
 RA MEDLINE: 9431389  
 RA "A new marker (NGFB) on pig chromosome 4, isolated by using a  
 consensus sequence conserved among species."  
 RT Cytogenet. Cell Genet. 67:120-125(1994).  
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
 STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
 EMBRYONIC SENSORY NEURONS.  
 CC -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
 CC  
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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC  
 DR EMBL; L31898; AAA21301.1; -.  
 DR HSSP; P01139; 1RTG.  
 DR INTERPRO; IPR002072; -.  
 DR PFAM; PF00243; NGF; 1.  
 DR PROSITE; PS00248; NGF\_1; 1.  
 KW Growth factor; Signal.

FT NON\_TER 1 1  
 FT SIGNAL <1 6 POTENTIAL.  
 FT PROPEP 7 109 BY SIMILARITY.  
 FT CHAIN 110 229 BETA-NERVE GROWTH FACTOR.  
 FT DISULFID 124 189 BY SIMILARITY.  
 FT DISULFID 167 217 BY SIMILARITY.  
 FT DISULFID 177 219 BY SIMILARITY.  
 FT CARBOHYD 57 57 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 102 102 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 154 154 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 SO SEQUENCE 229 AA: 25275 MW: FE8890771CBA3189 CRC64;

Query Match 50.4%; Score 368.5; DB 1; Length 229;  
 Best Local Similarity 56.3%; Pred. No. 1.5e-32;  
 Matches 71; Conservative 11; Mismatches 29; Indels 15; Gaps 1;

7 HGEYSVCSDEEHWGNTQATDLRGNEVTVLPHVRINNVYKQMFETTCRVSKPIGAP 66  
 117 HMEFVSVDVSVWAGDKTATIDIKGEVTVLGEVNINNSVFRQYFETTCRAPNPV--- 173  
 67 KPGQVSGVAGTSSCGRIDNEHNSYCTNVHFFVRLATSYKNOIAMRTIRINACVCL 126  
 174 -----DSGCRGIDSKHMNSYCTTHFFVRLATIDDKQAMRFRIDTACVCL 221  
 127 SRNSWR 132  
 222 SRKAAR 227

RESULT 8  
 ID NGF\_HUMAN STANDARD; PRT; 241 AA.

AC P01138;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 01-JAN-1990 (Rel. 13, Last sequence update)  
 DT 01-NOV-1997 (Rel. 35, Last annotation update)  
 DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF).  
 GN NGFB.  
 OS Homo sapiens (human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 RN (1)  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE: 83244969.  
 RA Ullrich A., Gray A., Berman C., Dull T.J.;  
 RT "Human beta-nerve growth factor gene sequence highly homologous to  
 that of mouse."  
 RT Nature 303:821-825(1983).  
 RN (2)  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE: 84206585.  
 RA Ullrich A., Gray A., Berman C., Dull T.J.;  
 RT "Sequence homology of human and mouse beta-NGF subunit genes."  
 RT Cold Spring Harb. Symp. Quant. Biol. 48:435-442(1983).  
 RN (3)  
 RP SEQUENCE FROM N.A.  
 RA TISSUE-BRAIN;  
 RC MEDLINE: 90326556.  
 RA Borsani G., Pizzuti A., Ruggeri E.I., Falini A., Silani V.,  
 RA Sisti A., Scariato G., Baralle F.E.;  
 RT "cDNA sequence of human beta-NGF."  
 RT Nucleic Acids Res. 18:4020-4020(1990).  
 RN (4)  
 RP SEQUENCE OF 178-219 FROM N.A.  
 RC TISSUE-LEUKOCYTE;  
 RA MEDLINE: 91222573.  
 RA Hallboeck F., Ibanez C.F., Persson H.;  
 RT "Evolutionary studies of the nerve growth factor family reveal a  
 novel member abundantly expressed in Xenopus ovary."  
 RT Neuron 6:845-858(1991).  
 CC -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
 MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT

## STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND

EMERSONIC SENSORY NEURONS.  
- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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EMBL: V01511; CAA24755.1; -  
EMBL: M21062; AA559931.1; -  
EMBL: X52599; CAA36832.1; -  
PIR: A01399; NGHUBM.  
PIR: S10253; S10253.  
HSSP: P01139; 1BTG.  
MIM: 162030; -  
INTERPRO: IPR002072; -  
PFAM: PF00243; NGF.1.  
PRINTS: PR00268; NGF.  
PROSITE: PS00248; NGF.1; 1.  
Growth factor; Signal.  
KW SIGNAL 1 18  
FT PROPEP 19 121  
FT CHAIN 122 241  
FT DISULFID 136 201  
FT DISULFID 179 229  
FT DISULFID 189 231  
FT CARBOHYD 69 69  
FT CARBOHYD 114 114  
SEQUENCE 241 AA; 26987 MW; CF1BD4DC6B736B0F CRC64;

Query Match 50.4%; Score 368.5; DB 1; Length 241;  
Best Local Similarity 54.2%; Pred. No. 1.6e-32;  
Matches 71; Conservative 13; Mismatches 32; Indels 15; Gaps 1;

QY 2 ANDFLARGEVSVDSEHWGNLTQATDLRGNEVTVLPHYRINNVKKOMFEYETTCRVSK 61  
DB 124 SHEIFRGEVSVDVSVWGDKTATDIDKGEVWVLEGVNINSVFQYFEETKCRDPN 183  
QY 62 PICAPRGQGVSVKAGTSCRGIDNEHNSYCTNHTFVRALTSKNOIAFRITAA 121  
DB 184 PV-----DSCGRGIDSKHNSYCTTHTFVKALMDGKQAAAFRIRIDTA 228  
QY 122 CVCVLSRNSMR 132  
DB 229 CVCVLSRKAAR 239

## RESULT 9

NGF\_PRANA STANDARD; PRT; 241 AA.  
AC P20675;  
DT 01-FEB-1991 (Rel. 17, Created)  
DT 01-FEB-1991 (Rel. 17, Last sequence update)  
DT 01-NOV-1997 (Rel. 35, Last annotation update)  
DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF).  
GN NGFB.  
OS Pteromys natalensis (African soft-furred rat) (Mastomys natalensis).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;  
OC Mastomys.  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE; 89172070.  
RA Fahnestock M., Bell R.A.;  
RT "Molecular cloning of a cDNA encoding the nerve growth factor precursor from Mastomys natalensis.";  
RL Gene 69:257-264 (1988).

## FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND

MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
EMERSONIC SENSORY NEURONS.  
- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.  
- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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EMBL: M22748; AAA40599.1; ALT\_INIT.  
PIR: JTO343; NGRTBA.  
HSSP: P01139; 1SGE.  
INTERPRO: IPR002072; -  
PFAM: PF00243; NGF.1.  
PRINTS: PR00268; NGF.  
PROSITE: PS00243; NGF.1; 1.  
Growth factor; Signal.  
KW SIGNAL 1 18  
FT PROPEP 19 121  
FT CHAIN 122 241  
FT DISULFID 136 201  
FT DISULFID 179 229  
FT DISULFID 189 231  
FT CARBOHYD 69 69  
FT CARBOHYD 114 114  
FT CARBOHYD 166 166  
SEQUENCE 241 AA; 27035 MW; 8BFB207A1FB2F7 CRC64;

Query Match 50.4%; Score 368.5; DB 1; Length 241;  
Best Local Similarity 56.5%; Pred. No. 1.6e-32;  
Matches 70; Conservative 13; Mismatches 26; Indels 15; Gaps 1;

QY 9 GEYSVCDSEHWGNLTQATDLRGNEVTVLPHYRINNVKKOMFEYETTCRVSKIGAPRP 68  
DB 131 GEFVSVDVSVWVGDKTATDIDKGEVWVLEGVNINSVFQYFEETKCRANPV----- 185  
QY 69 GQVSGVAGTSSCRGIDNEHNSYCTNHTFVRALTSKNOIAFRITAAACVCLSR 128  
DB 186 -----SSGCRGIDSKHNSYCTTHTFVKALTTDDRQAAMFRIRIDTACVCLSR 235  
QY 129 NSMR 132  
DB 236 KAPR 239

## RESULT 10

NGF\_BOVIN STANDARD; PRT; 231 AA.  
AC P13600; O18969.  
DT 01-JAN-1990 (Rel. 13, Created)  
DT 15-JUL-1998 (Rel. 36, Last sequence update)  
DT 15-JUL-1998 (Rel. 36, Last annotation update)  
DE BETA-NERVE GROWTH FACTOR PRECURSOR (BETA-NGF) (FRAGMENT).  
GN NGFB.  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Bovinae; Bos.  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE-BLOOD.  
RX MEDLINE; 97430845.  
RA Eiducque C., Laurent P., Hayes H., Rodellar C., Levezuel H.,  
RA Zaragoza P.;  
RT "Assignment of the beta-nerve growth factor (NGFB) to bovine chromosome 3 band q23 by in situ hybridization.";

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OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Caviidae; Cavia.
RN
  [1]
RP SEQUENCE FROM N.A.
RC TISSUE=PROSTATE;
RX MEDLINE; 89177243.
RA Schwarz M.A., Fisher D., Bradshaw R.A., Isaacson P.J.;
RT "Isolation and sequence of a cDNA clone of beta-nerve growth factor
  from the guinea pig prostate gland.";
RL J. Neurochem. 53:1203-1209(1989).
CC
  -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
    MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT
    STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND
    EMBRYONIC SENSORY NEURONS.
CC
  -1- SUBUNIT: HOMODIMER, ASSOCIATED BY NONCOVALENT FORCES.
CC
  -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.
DR PIR; J10097; J10097.
DR HSSP; P01139; 1BTG.
DR INTERPRO; IPROG2072; -.
DR PFAM; PF00243; NGF_1.
DR PRINTS; PR00266; NGF.
DR PROSITE; PS00248; NGF_1; 1.
FM Growth factor; Signal.
FT PROPEP 1 18 POTENTIAL.
FT CHAIN 122 241 BETA-NERVE GROWTH FACTOR.
FT DISULFID 136 201 BY SIMILARITY.
FT DISULFID 175 229 BY SIMILARITY.
FT DISULFID 185 231 BY SIMILARITY.
FT CARBOHYD 65 69 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 114 114 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 241 AA; 26821 MW; 2E4E26B197804BF4 CRC64;

Query Match 49.6%; Score 362.5; DB 1; Length 241;
Best Local Similarity 54.0%; Pred. No. 7,1e-32;
Matches 68; Conservative 14; Mismatches 29; Indels 15; Gaps 1;

QY 7 HRGESVCDSEEHVGNLTQATDLRGNEVTVLPHYRINNVYAKKQMFETTCRVSXPICAP 66
  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
DB 129 HMGESVCDSESVAVADTKTATDIDIGKEVTYLAEVNANNVNFQKQYEFETCKRDPSPV-- 185
QY 67 KPGGVSQVAKTSSCRGIDNDEHNNSYCTNVHTFPAALTSYKNOJAMRIRIRINACVCYL 126
  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
DB 186 -----DSCGRGIDSKHNSYCTTHTFVKALTTANKQAAMRIRIDTACVYL 233
QY 127 SRSNR 132.
DB 234 NPKAR 239

RESULT 12
NGF_DABRR
ID NGF_DABRR STANDARD; PRT; 117 AA.
AC P30894;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE NERVE GROWTH FACTOR (NGF).
OS Daboya russelli; russelli's viper (Vipera russelli russelli).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
OC Viperidae; Viperinae; Daboya.
RN
  [1]
RP SEQUENCE.
RC TISSUE=VENOM;
RX MEDLINE; 93120151.
RA Koyama Y.-I., Inoue S., Ikeda K., Hayashi K.;
RT "Purification and amino-acid sequence of a nerve growth factor from
  the venom of Vipera russelli russelli.";
RL Blochim. Biophys. Acta 1160:287-292(1992).
CC
  -1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND
    MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT

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STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC  
NEURONS IN THE BRAIN.  
-1- SUBUNIT: HOMODIMER.  
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
DR HSP: P01139; 13ET.  
DR INTERPRO: IP002072; -.  
DR PFAM: PF00243; NGF\_1.  
DR PRINTS: PR00268; NGF.  
DR PROSITE: PS00243; NGF\_1; 1.  
KW Growth factor; Signal.  
FT SIGNAL 1 18  
FT PROPEP 19 125  
FT CHAIN 126 243  
FT DISULFID 139 204  
FT DISULFID 182 232  
FT DISULFID 192 234  
SQ SEQUENCE 243 AA; 27514 MW; E33F64B142179A08 CRC64;

Query Match 48.6%; Score 355.5; DB 1; Length 117;  
Best Local Similarity 54.0%; Pred. No. 1.7e-31;  
Matches 67; Conservative 14; Mismatches 28; Indels 15; Gaps 1;

QY 7 HGEYSVCDSEHHVGNLTQATDLRGNEVTVLPHVRINNVKKOMFEYETTCRVSKPIGAP 66  
DB 5 NGEFSVCDSDSVWVANKTKATDMRGVTVVMDVNLNNNYKQFFETKCKRNPV--- 61  
QY 67 KPGQGSVGAAGTSSCGIDNEHNSCTNVHTFVRLSTKNOIAMFRINAACVYL 126  
DB 62 -----PSGCRGIDSRHNSYCTTTDTFVRLSTKNOIAMFRINAACVYL 109  
QY 127 SRNS 130  
DB 110 SRKN 113

RESULT 13  
NGF\_BUNMU STANDARD; PRT; 243 AA.  
AC P34128;  
DT 01-FEB-1994 (Rel. 28, Created)  
DT 01-FEB-1994 (Rel. 28, Last sequence update)  
DT 01-FEB-1994 (Rel. 33, Last annotation update)  
DE NERVE GROWTH FACTOR PRECURSOR (NGF).  
OS Bungarus multicinctus (Many-banded krait).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;  
OC Elapidae; Bungarinae; Bungarus.  
[1]  
SEQUENCE FROM N.A.  
TISSUE=VENOM;  
RX MEDLINE: 93192074.  
RA Danse J.M., Garnier J.M.;  
RT "Molecular cloning of a cDNA encoding a nerve growth factor precursor  
from the krait, Bungarus multicinctus.";  
RL Growth Factors 8:77-86(1993).  
-1- FUNCTION: NERVE GROWTH FACTOR IS IMPORTANT FOR THE DEVELOPMENT AND  
MAINTENANCE OF THE SYMPATHETIC AND SENSORY NERVOUS SYSTEMS. IT  
STIMULATES DIVISION AND DIFFERENTIATION OF SYMPATHETIC AND  
EMBRYONIC SENSORY NEURONS AS WELL AS BASAL FOREBRAIN CHOLINERGIC  
NEURONS IN THE BRAIN.  
-1- SUBUNIT: HOMODIMER.  
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
EMBL; S56212; AAB25729.1; -.

DR HSP: P01139; 13ET.  
DR INTERPRO: IP002072; -.  
DR PFAM: PF00243; NGF\_1.  
DR PRINTS: PR00268; NGF.  
DR PROSITE: PS00243; NGF\_1; 1.  
KW Growth factor; Signal.  
FT SIGNAL 1 18  
FT PROPEP 19 125  
FT CHAIN 126 243  
FT DISULFID 139 204  
FT DISULFID 182 232  
FT DISULFID 192 234  
SQ SEQUENCE 243 AA; 27514 MW; E33F64B142179A08 CRC64;

Query Match 46.7%; Score 341.5; DB 1; Length 243;  
Best Local Similarity 51.6%; Pred. No. 1.3e-29;  
Matches 64; Conservative 17; Mismatches 28; Indels 15; Gaps 1;

QY 7 HGEYSVCDSEHHVGNLTQATDLRGNEVTVLPHVRINNVKKOMFEYETTCRVSKPIGAP 66  
DB 132 NGEHSVCDSDSVWVANKTKATDMRGVTVVMDVNLNNNYKQFFETKCKRNPV--- 188  
QY 67 KPGQGSVGAAGTSSCGIDNEHNSCTNVHTFVRLSTKNOIAMFRINAACVYL 126  
DB 169 -----PSGCRGIDSRHNSYCTTTDTFVRLSTKNOIAMFRINAACVYL 236  
QY 127 SRNS 130  
DB 237 SRKT 240

RESULT 14  
NT3\_CHICK STANDARD; PRT; 257 AA.  
AC P25433;  
DT 01-MAY-1992 (Rel. 22, Created)  
DT 01-DEC-1992 (Rel. 24, Last sequence update)  
DT 30-MAY-2000 (Rel. 39, Last annotation update)  
DE NEUROTROPIN-3 PRECURSOR (NT-3) (NEUROTROPHIC FACTOR) (HDNF)  
DE (NERVE GROWTH FACTOR 2) (NGF-2).  
GN NTF3.  
OS Gallus gallus (Chicken).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
OC Gallus.  
[1]  
SEQUENCE FROM N.A.  
RX MEDLINE: 93091238.  
RA Maisongier P., Belluscio L., Conover J.C., Yancopoulos G.D.;  
RT "Gene sequences of chicken BDNF and NT-3.";  
RL DNA Seq. 3:49-54(1992).  
[2]  
SEQUENCE OF 194-236 FROM N.A.  
RX MEDLINE: 91222573.  
RA Hallboeck F., Ibanez C.F., Persson H.;  
RT "Evolutionary studies of the nerve growth factor family reveal a  
novel member abundantly expressed in Xenopus ovary.";  
RL Neuron 6:845-854(1991).  
-1- FUNCTION: SEEMS TO PROMOTES THE SURVIVAL OF VISCERAL AND  
PROPRIOCEPTIVE SENSORY NEURONS.  
-1- SUBCELLULAR LOCATION: SECRETED.  
-1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.

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EMBL; M83378; AAB68880.1; -.



DR HSSP: P20783; 1BND.  
 DR INTERPRO: IPR002072;  
 DR INTERPRO: IPR002400;  
 DR PFAM: PF00243; NGF; 1.  
 DR PRINTS: PRO0268; NGF.  
 DR PRINTS: PRO0438; GFCYSKNOT.  
 DR PROSITE: PS00248; NGF\_1; 1.  
 KM Growth factor; Signal.  
 FT SIGNAL 1 16  
 FT PROPEP 17 138  
 FT CHAIN 139 257  
 FT DISULFID 152 217  
 FT DISULFID 195 246  
 FT DISULFID 205 248  
 FT CARBOHYD 131 131  
 SQ SEQUENCE 257 AA; 29701 MW; E0043BA2A005C1E7 CRC64; (POTENTIAL).  
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 DB 145 HREGVSVCSSEHVMGULTQATDGRNEVTLPHVRINNVKKQMFETTCRVSPIGAP 66  
 QY 67 KPGGVSVGKAGTSSCGIDNEHNSVCTNVHFFRALTSYKNO-IAMRFRINAACVY 125  
 DB 202 -----KNGCRGIDKHMNSQKTSQTYVRALTSENNKLGMWRIRIDTSCVCA 249  
 QY 126 LSRNSWR 132  
 DB 250 LSRKIGR 256  
 RESULT 15  
 NT3\_HUMAN STANDARD; PRT; 257 AA.  
 ID NT3\_HUMAN  
 AC P20783;  
 DT 01-FEB-1991 (Rel. 17, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 30-MAY-2000 (Rel. 39, Last annotation update)  
 DE NEUROTROPHIN-3 PRECURSOR (NT-3) (NEUROTROPHIC FACTOR) (HDNF)  
 DE (NERVE GROWTH FACTOR 2) (NGF-2).  
 GN NTF3.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 90262727.  
 RA Rosenthal A., Goeddel D.V., Nguyen T., Lewis M., Shih A.,  
 RA Laramie G.R., Nikolic K., Winslow J.W.;  
 RT "Primary structure and biological activity of a novel human  
 RT neurotrophic factor";  
 RL Neuron 4:767-773(1990).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 91045937.  
 RA Jones K.R., Reichardt L.F.;  
 RT "Molecular cloning of a human gene that is a member of the nerve  
 RT growth factor family";  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:8060-8064(1990).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 9030635.  
 RA Kaisho Y., Yoshimura K., Nakahama K.;  
 RT "Cloning and expression of a cDNA encoding a novel human neurotrophic  
 RT factor";  
 RL FEBS Lett. 266:187-191(1990).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE: 91365361.

RA Maisonnier P.C., Le Beau M.M., Espliosa R. III, Ip N.Y.,  
 RA Belluscio L., Ce la Monte S.M., Squinto S., Furch M.E.,  
 RA Yancopoulos G.L.;  
 RT "Human and rat brain-derived neurotrophic factor and neurotrophin-3:  
 RT gene structures, distributions, and chromosomal localizations";  
 RL Genomics 10:558-568(1991).  
 RN [5]  
 RP SEQUENCE OF 194-236 FROM N.A.  
 RC TISSUE-LEUKOCYTE;  
 RX MEDLINE: 9122573.  
 RA Hallboeek F., Ibanez C.F., Persson H.;  
 RT "Evolutionary studies of the nerve growth factor family reveal a  
 RT novel member abundantly expressed in Xenopus ovary";  
 RL Neuron 6:845-858(1991).  
 RN [6]  
 RP X-RAY CRYSTALLOGRAPHY (2.3 ANGSTROMS).  
 RX MEDLINE: 9521877.  
 RA Robinson R.C., Radziejewski C., Stuart D.I., Jones E.Y.;  
 RT "Structure of the brain-derived neurotrophic factor/neurotrophin 3  
 RT heterodimer";  
 RL Biochemistry 34:4139-4146(1995).  
 CC -1- FUNCTION: SEEKS TO PROMOTE THE SURVIVAL OF VISCERAL AND  
 CC PROPRIOCEPTIVE SENSORY NEURONS.  
 CC -1- TISSUE SPECIFICITY: BRAIN AND PERIPHERAL TISSUES.  
 CC -1- SIMILARITY: BELONGS TO THE NGF-BETA FAMILY.  
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 CC  
 DR EMBL: X53655; CAA3703.1; -  
 DR EMBL: M37763; AAB59953.1; -  
 DR EMBL: M61180; AAB53231.1; -  
 DR PIR: JH0141; JH0141.  
 DR PIR: A36208; A36208.  
 DR PIR: S10719; S10719.  
 DR PIR: C40304; C40304.  
 DR PDB: 1BND; 04-APR-96.  
 DR PDB: 1BBK; 09-FEB-99.  
 DR MIM: 162660; -  
 DR INTERPRO: IPR002072; -  
 DR INTERPRO: IPR002400; -  
 DR PFAM: PF00243; NGF; 1.  
 DR PRINTS: PRO0268; NGF.  
 DR PRINTS: PRO0438; GFCYSKNOT.  
 DR PROSITE: PS00248; NGF\_1; 1.  
 KM Growth factor; Signal; 3D-structure.  
 FT SIGNAL 1 16  
 FT PROPEP 17 138  
 FT CHAIN 139 257  
 FT DISULFID 152 217  
 FT DISULFID 195 246  
 FT DISULFID 205 248  
 FT CARBOHYD 131 131  
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 DB 145 HREGVSVCSSEHVMGULTQATDGRNEVTLPHVRINNVKKQMFETTCRVSPIGAP 66  
 QY 67 KPGGVSVGKAGTSSCGIDNEHNSVCTNVHFFRALTSYKNO-IAMRFRINAACVY 125  
 DB 202 -----KNGCRGIDKHMNSQKTSQTYVRALTSENNKLGMWRIRIDTSCVCA 249

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QY 126 LSRNSWR 132  
Db 250 LSRKIGR 256

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